

**REMARKS**

The Office Action mailed on March 17, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1-20 were pending in the present application, with claims 6-8, 10, 11 and 13-20 being provisionally withdrawn from consideration.<sup>1</sup> By this paper, Applicants cancel claims 19 and 20 without prejudice or disclaimer, and add claims 21-25. Therefore, claims 1-18 and 21-25 are now pending in the present application.

Applicants respectfully submit that the present application is in condition for allowance for the reasons that follow.

**Rejections Under 35 U.S.C. § 102**

Claims 1-5 stand rejected under 35 U.S.C. §102(b) as being anticipated by Skarpelos (USP 5,028,384). In response, Applicants have amended independent claim 1, as seen above, and respectfully submit that claims 1-5 are allowable for the reasons that follow.

Applicants rely on MPEP § 2131, entitled “Anticipation – Application of 35 U.S.C. 102(a), (b), and (e),” which states that a “claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” It is respectfully submitted that Skarpelos does not describe each and every element of independent claims 1 and 4.

Claim 1 now recites that a surface of the separating and removing apparatus “is adapted to *trap thereon* radioactive corrosion products contained in water drops so that radioactive corrosion products firmly adhere to the surface.”<sup>2</sup> (Emphasis added.) That is, the invention covered by claim 1 holds the radioactive corrosion products. In an exemplary scenario utilizing the invention of claim 1, steam in a reactor is directed through a separating and removing apparatus, and water drops containing radioactive corrosion products fall on

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<sup>1</sup> Applicants request, later in this paper, that some of these claims now be considered.

<sup>2</sup> Support for this amendment is found on page 7, line 22, to page 8, line 12 of the specification.

hydrophilic corrugated plates and stick to the plates. When these drops dry, the radioactive corrosion products adhere in films to the surfaces of the corrugated plates, thus remaining on the plates.

In contrast, Skarpelos teaches oxidizing catalysts providing a means for oxidation of ammonia to nitrates or nitrites. "Nitrogen . . . in more volatile forms such as ammonia, are oxidized to non-volatile, water soluble forms comprising nitrates (NO-3) and/or nitrites (NO-2) by catalytic oxidation." (Skarpelos, col. 4, lines 50-55.) That is, in Skarpelos, the corrosion products are merely converted to a non-volatile substance. Skarpelos does not disclose, teach, or suggest that radioactive corrosion products are trapped anywhere. Instead, in Skarpelos, the corrosion products are merely converted to a non-volatile compound. Thus, the corrosion products are not trapped on a surface: the corrosion products cannot be trapped anywhere, because they are converted to a non-volatile product.

Applicants note that the Office Action alleges that the specification teaches that TiO<sub>2</sub> "is a known superhydrophilic substance," and that since Skarpelos teaches the use of TiO<sub>2</sub>, an argument might be made that Skarpelos also teaches trapping of water drops. Applicants respectfully point to page 7, lines 24-26, of the specification, which states that "[i]t is generally known that TiO<sub>2</sub>, shows a superhigh hydrophilic property *when it is used in combination with an SiO<sub>2</sub> binder*." (Emphasis added.) As Skarpelos is silent in teaching the use of a SiO<sub>2</sub> binder, Skarpelos does not teach a superhydrohydrophilic substance.

{ NOT DIRECTED  
TO THE INVENTION }

In sum, claim 1 is allowable in view of Skarpelos.

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Claim 4 recites a radioactive separating and removing apparatus employing a metal or a metal oxide as an ion-exchange material that exchanges ions for radioactive ions.

As discussed above regarding claim 1, the Skarpelos reference merely converts corrosion products into non-volatile compounds in a chemical reaction. Skarpelos is completely silent in teaching an ion-exchange material that exchanges ions for radioactive ions. Thus, claim 4 is allowable.

Further, the claims that depend from claims 1 and 4 are allowable at least due to their dependency from allowable claims.

**Claim Rejections Under 35 U.S.C. §103(a)**

In the Office Action, dependent claims 9 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over Skarpelos in view of Cowan II (USP 5,465,278). Applicants respectfully traverse the rejection as to the claims above, and submit that these claims are allowable for at least the reason that each and every recitation of the claims are not taught by the combined references.

In formulating the obviousness rejection, Skarpelos is relied on to teach the recitations of claim 4, the claim from which claims 9 and 12 depend. As seen above, Skarpelos does not teach each and every recitation of claim 4. The Cowan II reference, introduced as allegedly teaching a corrugated structure, does not remedy the deficiencies of Skarpelos. Cowan II, being directed towards monitoring an electrochemical potential near a weldment in a pressure vessel, is completely silent in regard to a radioactive separating and removing apparatus employing a metal or a metal oxide as an ion-exchange material that exchanges ions for radioactive ions. Thus, claims 9 and 12 are allowable.

Claim 9 is also allowable for at least the reason that neither Skarpelos nor Cowan II disclose, teach, or suggest a corrugated plate having a p-type oxide film coating with an ion-exchange material on the p-type oxide film.<sup>3</sup> Skarpelos does teach depositing oxidizing catalysts on a steam separator and/or a dryer unit. However, this is not the same as a component with a layer comprising an ion-changing material and a layer comprising a p-type oxide film. Because Skarpelos is silent in regard to this element, claim 9 is allowable for this additional reason as well.

**New Claims**

Applicants have added new claims 21-25. These claims are allowable at least due to their dependencies from allowable claims. The subject matter of these claims has been taken from the claims from which they depend (prior to amendment of those claims), and the specification on pages 7 and 8. Thus, no new matter has been added.

**Withdrawn Claims**

Applicants respectfully request that claims 6, 7, 10, 11 and 13-18 (as well as new claims 21-25, which would presumably have been withdrawn from the case due to their dependencies) and any other withdrawn claim that depends from claim 1 or claim 4 now be considered and allowed because those claims depend, either directly or indirectly, from claim 4, and thus no examination of these claims under 35 U.S.C. §§ 102 and 103 is necessary.

**Conclusion**

Applicants believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

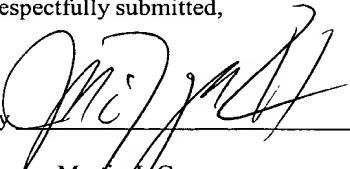
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<sup>3</sup> Claim 9 was identified in the Office Action as being a product-by-process claim. Claim 9 has been amended to remove the product-by-process language.

Examiner Keith is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

By



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